Anterior Mediastinal Mass and Perioperative Care

Patient with an anterior mediastinal mass scheduled for surgery

Perform clinical assessment
- Respiratory Assessment
  - Orthopnea, Stridor, Wheezing, Cough, Dyspnea, Pleural Effusion, Accessory Muscle Use, Syncope
- Asses for Upper Body Edema

Refer to Preop Imaging
- CXR: determine Mediastinal mass ratio
- CT: determine degree of airway and/or great vessel compromise/compression.
- Echocardiogram: if pericardial effusion identified, bedside TTE to assess for tamponade and function

High Risk^
- ***Three or more symptoms*** of respiratory distress listed in the clinical assessment
- Upper body edema
- Inability to lie flat
- Orthopnea
- Tracheal Involvement with cross-sectional area < 50%
- Mediastinal Mass Ratio > 0.45%
- Great artery involvement
- Evidence of pericardial tamponade or ventricular dysfunction
- Evidence of pneumonia

High risk patient^

No → Proceed with general anesthesia

Yes

Discuss with Oncology

If patient highly symptomatic and must proceed to OR:
- Can preoperative steroids, chemotherapy, or radiation be reasonably administered?

Bedside Checklist/ Preoperative Clinical Care:
- Time out at bedside with Consultants: Oncology, Pediatric Surgery, Anesthesiology, Intensive Care, Cardiovascular Surgery, ENT, Radiology (Interventional and/or Radiation Oncology), Circulating RN.
- Determine if procedure is high urgency.
- VATS to place LE PIV.
- Type and Cross 2 units PRBC (Irradiated and Leukocyte Reduced) and 1 FFP on call to OR.
- Discuss location of biopsy site: peripheral versus central (established order of biopsy preference: peripheral smear and flow cytometry>bone marrow aspiration>pleural effusion>palpable lymph node>mediastinal mass biopsy)
- Discuss PICC line versus central line
- If feasible, schedule case during "Normal Business Hours."
- Equipment Ready and Available: 1) Rigid Bronch 2) need for ECMO/ECMO specialists.
- Heme recommendations re: 1) Chemo 2) Radiation 3) Steroids

Evidence of pericardial tamponade or ventricular dysfunction with EF < 35%

No →

Contact Consultants:
- General Pediatric Anesthesia
- Pediatric Surgery
- ENT: Present in OR with rigid bronch
- Interventional Radiology: PICC line versus central line

Yes

Contact Consultants:
- CV Anesthesia vs. General CV Anesthesia for procedure location.
- CV Surgery for Pericardial Window if effusion present vs. Interventional Cardiology for Pericardial Drain
- CV Perfusion for Bypass/ECMO Standby
- ENT: Present in OR with rigid bronch

Anesthetic Management Goals:
- Have additional personnel present
- Maintain spontaneous ventilation
- Maintain patient's position of comfort when recumbent
  - May consider lateral or prone position for cardiorespiratory decompensation
- Avoid positive pressure ventilation and muscle relaxants if possible.
- Biopsy under local anesthesia
- If impending respiratory collapse
  - Intubate past obstruction
  - Stent airway with rigid bronchoscope
- Initiate ECMO if impending cardiovascular collapse
- If high risk, has a pericardial effusion or EF<35%: Contact ENT to be present in OR with rigid bronch equipment.
- Consider fluid bolus immediately pre procedure if tamponade present.